

**Notice of Allowability**

Application No.

10/648,391

Examiner

Usman Khan

Applicant(s)

BEAN ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/9/2007.
2. ☒ The allowed claim(s) is/are claims 26 - 37 renumbered consecutively as allowed claims 1 - 12.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of the:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☒ SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.  
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached  
1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.  
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.  
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☒ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

## DETAILED ACTION

### *Allowable Subject Matter*

Claims 26 - 37 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent **claim 26**, the prior art of record fails to teach or fairly suggest a CCD imager architecture comprising: a plurality of banks of photo-sensing pixels arranged in a matrix of rows and columns, the photo-sensing pixels configured to record data collectively representative of an image; a plurality of horizontal CCD (HCCD) arrays comprising information-transferring cells, each HCCD array being located adjacent a corresponding bank of photo-sensing pixels, and each information-transferring cell corresponding to a respective column of photo-sensing pixels; [...] when in the non-sampling mode, to sequentially transfer all of the data in the column of photo-sensing pixels into the corresponding information-transferring cell in the respective HCCD; and when in the sampling mode, to transfer data from only one of the photo-sensing pixels from selected ones of the columns of photo-sensing pixels into the corresponding information-transferring cell in the respective HCCD; in combination with other elements of the claim.

Regarding **claims 27 - 30**, these claims are allowed as being dependent from allowed independent claim 26.

Regarding independent **claim 31**, the prior art of record fails to teach or fairly suggest a CCD imager architecture comprising: a plurality of banks of photo-sensing pixels arranged in a matrix of rows and columns, the photo-sensing pixels configured to record data collectively representative of an image; a plurality of horizontal CCD (HCCD) arrays comprising information- transferring cells, each HCCD array being located adjacent a corresponding bank of photo-sensing pixels, and each information-transferring cell corresponding to a respective column of photo-sensing pixels; a controller and a clock, the controller configured to operate the clock to control; [...] and when in the sampling mode, to transfer data from less than all of the photo- sensing pixels from selected ones of the columns of photo-sensing pixels within a selected bank into the corresponding information-transferring cell in the respective 2o HCCD, and wherein the selected ones of the columns of photo-sensing pixels in the selected bank comprise less than all of the columns in the bank; in combination with other elements of the claim.

Regarding **claim 32**, these claims are allowed as being dependent from allowed independent claim 31.

Regarding independent **claim 33**, the prior art of record fails to teach or fairly suggest the CCD imager architecture comprising a plurality of banks of photo-sensing pixels arranged in a matrix of rows and columns, the photo-sensing pixels configured to record data collectively representative of an image, the CCD imager architecture further

comprising a plurality of horizontal CCD (HCCD) arrays comprising information-transferring cells, each HCCD array being located adjacent a corresponding bank of photo-sensing pixels, and each information-transferring cell corresponding to a respective column of photo-sensing pixels, the method comprising: in a non-sampling mode, sequentially transferring all of the data in the column of photo-sensing pixels into the corresponding information-transferring cell in the respective HCCD array; and in a sampling mode, transferring data from only one of the photo-sensing pixels in selected columns of photo-sensing pixels into the corresponding information-transferring cell in the respective HCCD; in combination with other elements of the claim.

Regarding **claims 34 - 36**, these claims are allowed as being dependent from allowed independent claim 33.

Regarding independent **claim 37**, the prior art of record fails to teach or fairly suggest the CCD imager architecture comprising a plurality of banks of photo-sensing pixels arranged in a matrix of rows and columns, the photo-sensing pixels configured to record data collectively representative of an image, the CCD imager architecture further comprising a plurality of horizontal CCD (HCCD) arrays comprising information-transferring cells, each HCCD array being located adjacent a corresponding bank of photo-sensing pixels, and each information-transferring cell corresponding to a respective column of photo-sensing pixels, the method comprising: in a non-sampling mode, sequentially transferring all of the data in the column of photo-sensing pixels into

the corresponding information-transferring cell in the respective HCCD array; and in a sampling mode, transferring data from less than all of the photo-sensing pixels from selected ones of the columns of photo-sensing pixels within a selected bank into the corresponding information-transferring cell in the respective HCCD, and wherein the selected ones of the columns of photo-sensing pixels in the selected bank comprise less than all of the columns in the bank; in combination with other elements of the claim.

### ***Conclusion***

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Usman Khan whose telephone number is (571) 270-1131. The examiner can normally be reached on Mon-Thru 6:45-4:15; Fri 6:45-3:15 or Alt. Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:  
10/648,391  
Art Unit: 2622

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Usman Khan  
01/18/2008  
Patent Examiner  
Art Unit 2622



DAVID OMETZ  
SUPERVISORY PATENT EXAMINER